

## MB-TBL

The Thin Backlight Series is a high performance and uniform light source for silhouetting and transmissive applications. With a housing thickness of less than 11mm and edge-to-edge lighting, the thin backlight series helps maximize illumination area in tight spaces. Using a Full Array LED layout, we can pack more LEDs per square inch to provide greater intensity, uniformity and performance.



### FEATURES

- Extremely low-profile backlight for applications with strict spatial limitations
- Streamline design allows for maximum active area
- Edge to edge backlight (full array of LEDs)
- Very high intensity with  $\pm 5\%$  uniformity
- High Density Precision Chip Technology (HDPCT)
- Custom sizes available
- Optional In-Line constant current driver with 0-10VDC intensity control (24-ILZ option)
- Flicker free performance and instant start up

### WAVELENGTHS

Order ID	Description / nanometers
W	White (6000K), Nominal
R	Red / 630nm
G	Green / 530nm
B	Blue / 470nm
IR850	Infrared / 850nm
IR880	Infrared / 880nm
IR940	Infrared / 940nm
UV365	Ultraviolet Long / 365nm
UV395	Ultraviolet Long / 395nm

### GENERAL SPECIFICATIONS

<b>Power Source:</b>	24VDC $\pm 5\%$
<b>Cable (Standard):</b>	10-foot cable with flying leads
<b>Housing:</b>	Black Anodized Aluminum
<b>Ambient Temp:</b>	-20°C to 40°C
<b>Lifetime Expectancy:</b>	75,000 hours (except UV)

MB-TBL

Thin Backlights									
MODEL*	Overall Width and Length Inches (cm)	Height Inches (cm)	Active Area Inches (cm)	Weight lbs (grams)	Cable QTY	Cable Length	AWG/ Conductors	Maximum Input Current (Amps)	
								Visible	IR, UVS, UVL
MB-TBL1x1	1.27 x 1.82 (3.231 x 4.633)	.39 (.99)	1.21 x 1.24 (3.07 x 3.15)	.10 (45)	1	10ft	24/4 or 18/2	0.25	0.35
MB-TBL1x3	1.12 x 4.14 (2.845 x 10.52)	.40 (1.016)	1.09 x 3.50 (2.758 x 8.887)	.15 (68)				0.35	0.45
MB-TBL1x4	1.12 x 5.33 (2.845 x 13.54)	.40 (1.016)	0.97 x 4.60 (2.454 x 11.68)	.20 (91)				0.37	0.46
MB-TBL1x7	1.36 x 7.70 (3.450 x 19.56)	.40 (1.016)	1.15 x 6.90 (2.921 x 17.53)	.35 (159)				0.46	0.57
MB-TBL2x2	2.42 x 3.00 (6.147 x 7.620)	.42 (1.070)	2.35 x 2.71 (5.669 x 6.883)	.20 (91)				0.35	0.45
MB-TBL2x7	2.82 x 7.19 (7.163 x 18.26)	.39 (.99)	2.35 x 7.12 (5.970 x 18.10)	.70 (318)				0.88	1.05
MB-TBL2x8	2.82 x 8.33 (7.163 x 21.15)	.39 (.99)	2.35 x 8.26 (5.970 x 20.98)	.80 (363)				0.91	1.14
MB-TBL3x3	3.60 x 4.13 (9.144 x 10.49)	.42 (1.070)	3.53 x 3.56 (8.970 x 9.040)	.45 (204)				0.75	0.90
MB-TBL3x5	3.80 x 5.83 (9.639 x 14.82)	.42 (1.070)	3.61 x 5.06 (9.167 x 12.85)	.75 (340)				0.90	1.00
MB-TBL4x4	4.25 x 4.76 (10.80 x 12.08)	.44 (1.110)	4.10 x 4.20 (10.32 x 10.64)	.80 (363)				0.95	1.10
MB-TBL4x5	4.17 x 4.81 (10.59 x 12.22)	.42 (1.070)	3.60 x 4.75 (9.140 x 12.07)	1.0 (454)				1.10	1.25
MB-TBL5x5	5.33 x 6.22 (13.53 x 15.80)	.42 (1.070)	5.26 x 5.33 (13.37 x 13.53)	1.25 (567)				1.18	1.30
MB-TBL5x10	6.22 x 10.33 (15.80 x 26.23)	.42 (1.070)	5.34 x 10.26 (13.56 x 26.07)	2.50 (1134)				1.24	1.38

\*Custom sizes available

## MB-TBL

Wiring (4 conductors, flying leads)**	
Wire Color	Function
RED	+24VDC
WHITE	0-10VDC INTENSITY CONTROL
BLACK	GROUND (24V RTN)
GREEN	SIGNAL GROUND

Wiring (4 conductors, without Intensity Control)	
Wire Color	Function
RED	+24VDC
WHITE	+24VDC
BLACK	GROUND (24V RTN)
GREEN	GROUND (24V RTN)

M12 (5 position male)**	
Pin #	Function
1	+24VDC
2	0-10VDC Intensity Control
3	GROUND (24V RTN)
4	SIGNAL GROUND
5	No Connection

The M12 connector option is not recommended for lights rated more than 4 amps

Wiring with ULC-2	
Wire Color	Function
RED, WHITE (+)	LED INPUT
BLACK, GREEN (-)	
Terminated within a 2 position ULC-2 output connector (Phoenix Contact P/N: BCP-508-2)	

\*\*Note: The 0-10VDC Intensity Control input can accept voltages from 0-24VDC where the light will operate at full intensity in the 10-24VDC range. The light is proportionally dimmer for any Intensity Control voltage less than 10VDC and the light is OFF at approximately 0V or not connected (floating).

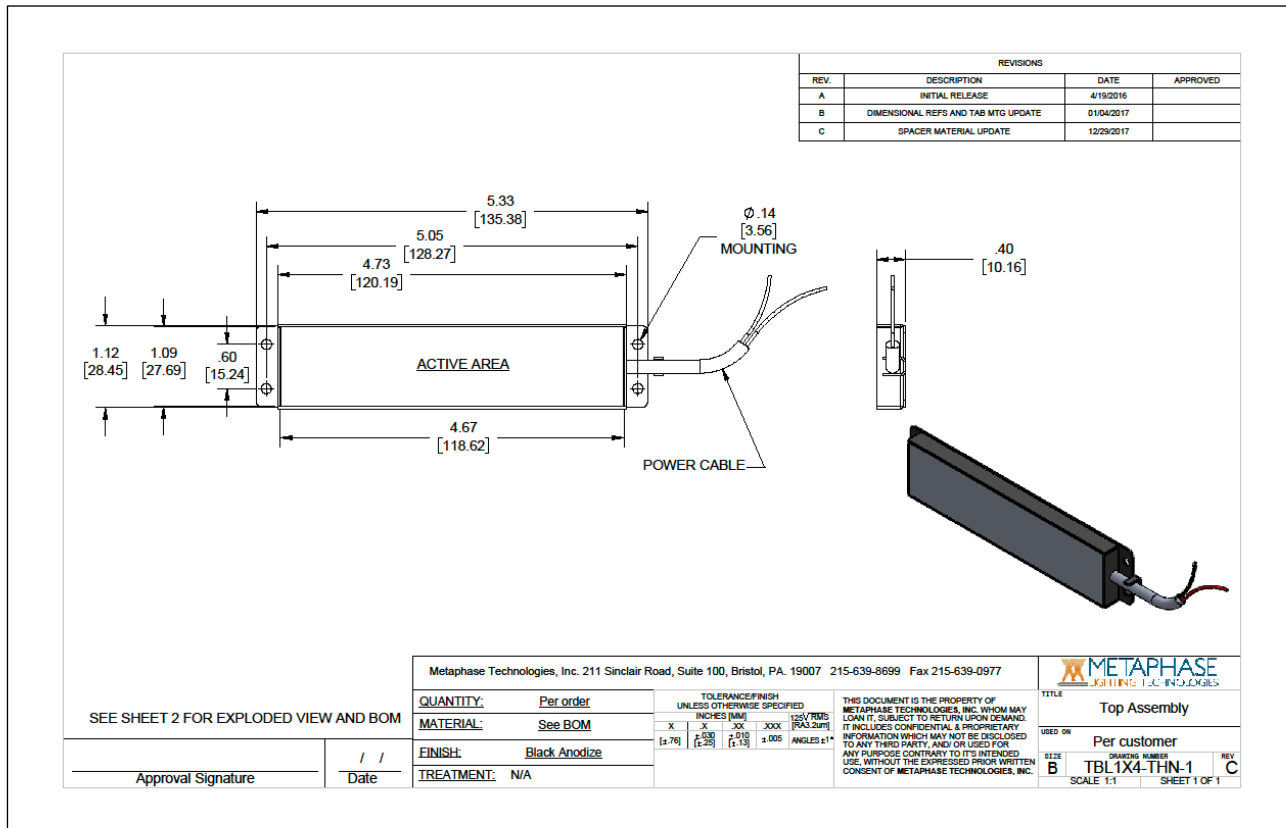
MB-TBL

PART NUMBER KEY									
MODEL	SIZE	-	WAVELENGTH	-	DRIVER* (most common)	-	CABLE LENGTH	-	CONN.** (most common)
MB-TBL	XXXX	-	XXXXX	-	XXX-XXXXXX	-	XXX	-	XXXX
<b>MB-TBL</b>	<b>1x1 to 8x10</b>		<b>W</b> (White 6000K, Nominal) <b>R</b> (Red 630nm) <b>G</b> (Green 530nm) <b>B</b> (Blue 470nm) <b>IR850</b> (Infrared 850nm) <b>IR880</b> (Infrared 880nm) <b>IR940</b> (Infrared 940nm) <b>UV365</b> (UV Long 365nm) <b>UV395</b> (UV Long 395nm)		<b>24CV</b> <b>24-ILZ</b> <b>24-ILSXXX</b> <b>24-ILD</b> <b>U<sup>1</sup></b>		<b>5M</b> <b>10M</b>  Length can be customized: ex.7M=7meters  Select or leave blank for 3 meters		<b>M12D<sup>1 2</sup></b> <b>BC<sup>1 3</sup></b>  Select or leave blank for flying leads
Example 1: <b>MB-TBL2x7-G-24CV</b> Example 2: <b>MB-TBL4x4-R-24-ILZ</b>					<sup>1</sup> Not available in lights exceeding 4A input current <sup>2</sup> Default cable length for an M12D connector is 19 inches <sup>3</sup> Default cable length for a Barrel Connector is 10 feet				

Contact Metaphase Technologies or your local representative for options such as custom diffusers, lenses, polarizers, IP-rated enclosures for harsh environments, higher intensity, custom wavelengths, higher uniformity, etc. Not all options are available for all lights.

**MB-TBL**

Sample Model Number: **MB-TBL1x4-W-24CV**



**COMPLIANCE**



**CONTACT US**

Contact Metaphase Technologies at **215-639-8699** or your local representative for additional details, options and customizations.